(No Model.)

R. M. GELINAS.

LUBRICATOR.

No. 590,974. Patented Oct. 5, 1897.

Fig. 2.

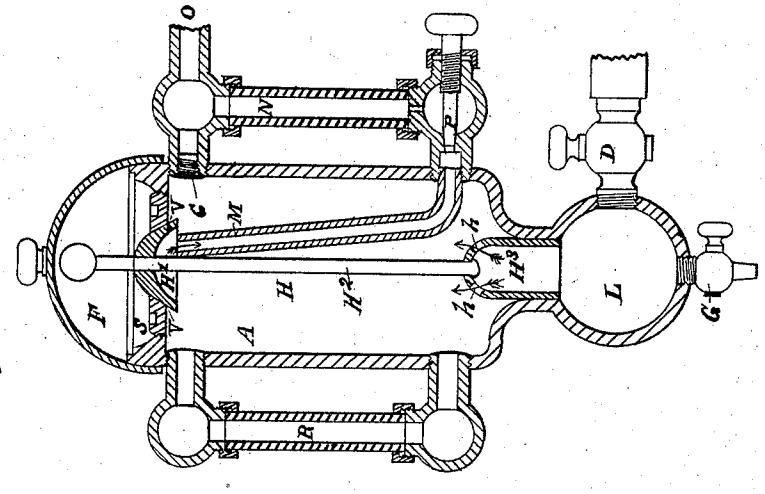
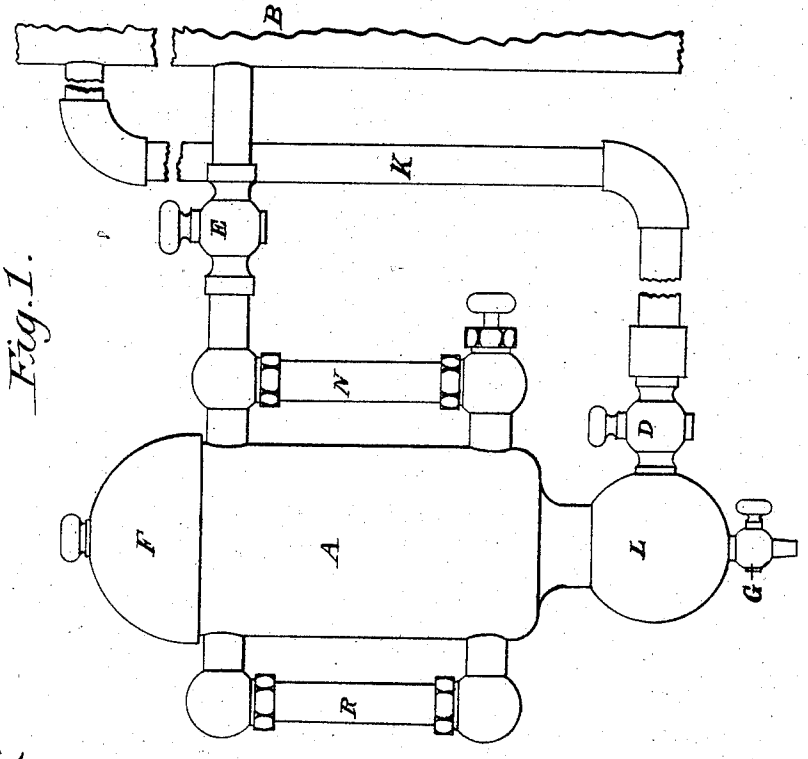


Fig. 1.



Witnesses.
Jennie Reynolds.
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Inventor
Richard M. Gelinas.
by R. L. Reynolds,
his atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RICHARD M. GELINAS, OF SEATTLE, WASHINGTON, ASSIGNOR OF ONE-HALF TO THOMAS F. COLBERT, OF SAME PLACE.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 590,974, dated October 5, 1897.

Application filed December 16, 1895. Serial No. 572,364. (No model.)

To all whom it may concern:

Be it known that I, RICHARD M. GELINAS, a citizen of the United States, formerly residing at Muckilteo, in the county of Snohomish, but now a resident of the city of Seattle, county of King, State of Washington, have invented a new and useful Lubricator, of which the following is a specification.

My invention relates to lubricators, or improvements therein, used in connection with or for the purpose of lubricating steam-engines, pumps, and other machines driven by steam-cylinders.

The objects of my invention are, first, to provide an easy method of filling lubricators and one by which the spilling or wasting of any oil may be prevented; second, to avoid the conducting of a steam or condenser pipe through the oil in the lubricator, and thereby to prevent the heating or changing the temperature of the oil, and thereby to avoid any interference with the transmission into the steam-supply pipe of the amount of oil desired; third, to avoid the frequent delay after filling in again putting the lubricator into operation, and, fourth, to avoid the frequent and usual necessity, in the ordinary lubricator, after filling, of resetting the "feed" or again regulating the amount of oil to be transmitted. These objects are attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of my device, and Fig. 2 is a central longitudinal section of the same.

Similar letters of reference refer to similar parts in both the figures.

The lubricator consists, in the first place, of a large central cylinder or cup A, as a receptacle for the oil, and having a rounded or bell-shaped cap F at the top, and which is to be removed when the cylinder is to be filled. This cap is not screwed on and is removed merely by lifting. At the upper part of the cylinder and on the inside, at a point S just below where the cup is adjusted to the cylinder, is a strainer for the keeping of dirt or dust from the oil beneath. Joining on the cylinder at the bottom is a condenser-globe L, and projecting downward from this is a drain-cock G, by means of which the water may be drawn from the condenser-globe. Connected with said globe is a pipe known as the "condenser-pipe" K, in which is a valve D, which respectively transmits and regulates the transmission of the steam or water into said globe. At one side and projecting from the central cylinder A is a gage glass tube R for determining the amount of oil in the cylinder, and at another side of said cylinder is a sight-tube N for gaging the transmission of the oil from the cylinder into a pipe O, leading into the steam-supply pipe B. In the interior of the cylinder, running lengthwise and from a point a little below the strainer S and valve-seats of the compression-valve hereinafter mentioned, is still another tube M, which extends to the bottom of the cylinder and connects with a short pipe leading to the aforesaid sight-tube N. In this short tube just mentioned, between said cylinder and said sight-tube and midway therein, is a feed-valve P for the regulating of the amount of oil to be transmitted through said sight-tube and into said steam-supply pipe B. Finally, and in the interior of the cylinder, and one of the most distinctive features of this invention, and extending when raised from the top of the condenser-globe to nearly the top of the cylinder proper and to a point V V a little above the top of the tube M and just below where the cap fits on the cylinder, is a compression-valve H. This valve consists of three parts—the valve proper, H′, the stem H^2, and the hollow bell-shaped piston H^3. This piston slides in the neck connecting the condensation-chamber with the oil-reservoir. The upper or closed end of the bell is perforated by holes *h* to allow the water of condensation to pass from the condensation-chamber to the oil-reservoir. The holes are, however, small, so that when the pressure is turned on to the condensation-chamber by opening of the valve D more or less of this pressure will be immediately applied to the bell to lift the valve to its seat, where it will thereafter be held by pressure upon its under surface. Its principal function is thus to secure a prompt closure of the valve without having any oil forced out by the valve. When lowered, the valve leaves at V V or at S a wide opening

from the cylinder upward, while, on the other hand, the lower part has dropped a little into the condenser-globe L. The seats of this valve resting for the most part in oil wear out only with difficulty. A plug C closes the pipe O where it joins the reservoir A.

The manner of operation is as follows, to wit: Close valve E, so as to prevent the back pressure from the steam-pipe; then turn or close the valve D in the condenser-pipe, thus preventing any transmission of steam or water from there into the condenser-globe L; remove the cap F from the top of the cylinder; open the drain-cock G, so as to allow the steam and water which has gathered in the globe to run out, and the valve H, no longer supported by the water or steam, to drop and thus leave the cylinder open, as indicated at the top and at the points V; now close the cock G below the condenser-globe L and pour the oil in at the top of the cylinder until filled; replace the cap F; now open the valve D in the condenser-pipe, and the steam and water rushing into the globe will force the valve H upward; then open the valve E in the oil-transmitting pipe O and the oil will begin to flow from the cylinder down the tube M through the valve P into and through the sight-tube N into the steam-transmitting pipe O and supply-pipe B, whence it is transmitted to the cylinder or engine, and the lubricator will be in full operation. The oil being lighter than water remains, of course, always on top in the cylinder, and as the condensed steam or water gathers in the condenser-globe in increasing quantity and rises into the cylinder and in the direction indicated by the arrows in Fig. 2 the oil is forced upward, together with the valve H, and the oil is forced down the tube or pipe M, and so on, as indicated above.

By my invention the ordinary method of filling lubricators by the removal or unscrewing of a plug and pouring oil through a small aperture is done away with, thereby avoiding not only considerable annoyance but also the frequent leaking incident to said plugs. Having practically the whole top of the cylinder into which to pour the oil renders any spilling or wasting impossible.

By my plan of having the condenser-globe at the bottom of the lubricator instead of at the top, as in other lubricators, there is further avoided, as before suggested, the presence of a heated condenser-pipe from a point above the lubricator down through the oil to the bottom of the cylinder. Consequently also, is there avoided the heating and sometimes boiling of the oil from contact with said pipe, and consequently, also, any interference with the regular transmission or feeding of the oil, a result that always follows any considerable change in its temperature.

With my lubricator it is never necessary to wait for the oil to cool and the lubricator to operate, as the oil always remains at about the same temperature. By my device of a valve E in the oil-transmitting pipe O all back pressure of steam from the steam-supply pipe B is avoided. In other lubricators this back pressure is prevented by shutting the feed-valve P, which, however, necessitates time and trouble in resetting the same when again ready for operation. The avoidance of this is also a distinct advantage of my invention over others, for after having once set the feed-valve so as to provide for the transmission of the requisite drops of oil per hour no further attention to the same is necessary.

Having fully described my invention, what I therefore claim, and desire to secure by Letters Patent, is—

1. In a lubricator, the combination with an oil-reservoir having a filling-opening in its upper end, a condensation-chamber connected to its lower end by a neck and a steam-pipe connection to said condensation-chamber, of a plunger or valve within said reservoir adapted when raised to close said filling-opening, a stem connected to the valve and a bell-shaped piston connected to the lower end of the stem so as to slide in the neck of the condensation-chamber and having perforations through its upper end, substantially as shown and described.

2. In a lubricator with an oil-reservoir open at its upper end and having an internally-facing valve-seat just below the upper end, a condensation-chamber connected to the lower end of the oil-reservoir by a vertical neck, and a steam-pipe connection to the condensation-reservoir, of a valve within said reservoir adapted to be raised by the steam-pressure and consisting of the valve proper, a dependent stem and a bell-shaped piston on the lower end of the stem adapted to slide in the neck of the condensation-chamber and having perforations in its upper end, substantially as shown and described.

3. In a lubricator, the combination of an oil-reservoir having a filling-opening at its upper end, a condensation-chamber at its lower end, a steam-pipe connection to said condensation-chamber, a valve within the reservoir adapted to be held closed by the steam-pressure a guide and perforated piston sliding therein located between the condensation-chamber and oil-reservoir, said piston being connected to the valve to close the same, substantially as shown and described.

RICHARD M. GELINAS.

Witnesses:
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